Conservation Systems Research

Seed Treatments and Tillage Effects on Root-Knot Nematodes and Thrips in Cotton

RESEARCH PROJECT DESCRIPTION NO. 28

United States Department of Agriculture

Agricultural Research Service

National Soil Dynamics Laboratory

Conservation Systems Research

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December 2003

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Field experiment showing varying amounts of root-knot damage.

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The Challenge

Root-knot nematodes (*Meloidogyne incognita*) are damaging pests for cotton and cause significant yield losses. Control strategies consist of chemical nematicide applications, crop rotation with a non-host crop, and resistant varieties, when available. Thrips, an early season pest, attack developing seedlings, which may stunt plants, slow growth, and reduce stands.

Recently, significant increases have occurred in cotton conservation tillage acreage. Since most experience with nematicides has occurred in conventional tillage systems, the effectiveness of nematicides within high residue tillage systems must be determined. Previous observations also indicate lower thrip populations in conservation systems.

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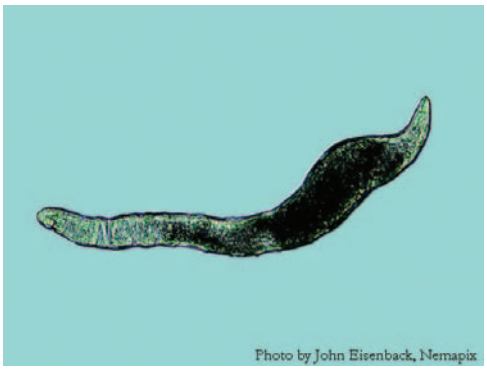
The Experiment

An experiment has been established at the E.V. Smith Research Center, Milstead, to examine interactions between nematode and thrip populations and tillage systems utilizing different nematicides.

Six nematicides treatments and two tillage systems will be planted to cotton, following a triticale cover crop.

Triticale samples will be tested for dry matter, carbon, and nitrogen. Nematode and thrip populations will be monitored during the cotton cropping season. Cotton maturity and yield will be measured. Following cotton harvest, deep soil samples will be collected to examine correlations between nematode populations and soil physical properties.



Juvenile root-knot nematode

Rook-knot damage